

1 IN THE CLAIMS:

2 1. A method for winding a stator of a multi-phase motor, said
3 method comprising the steps of:

4 successively winding each of a plurality of teeth on the stator with a
5 continuous first wire to connect each of the phases in the motor together;

6 disconnecting said first wire between any two phases where
7 respective ends of the two phases connected by said first wire are not neutral ends;
8 and

9 connecting a second wire between a neutral end of any one of the
10 phases to a neutral end of at least one other phase if said neutral end of said any one
11 of said phase is not connected to said neutral end of said at least one phase by said
12 first wire.

13 2. The method as defined in claim 1, further comprising the step of
14 routing said first wire through a plurality of slits in an insulator attached to an end of
15 said stator when winding from one tooth to the next tooth.

16 3. The method as defined in claim 2, wherein said slits have
17 differing depth to prevent said first wire from making electrical contact between any
18 of the phases.

19 4. The method as defined in claim 1, wherein said stator is wound
20 using a needle winder.

1 5. The method as defined in claim 1, wherein said stator is wound in
2 a single tooth winding pattern.

3 6. A stator for a multi-phase motor, comprising:
4 a plurality of coils of each of the phases being successively wound
5 with a continuous first wire;
6 a disconnection in said first wire between any two phases where
7 respective ends of said any two phases are both not neutral ends; and
8 a second wire connecting a neutral end of any one of the phases to a
9 neutral end of at least one other phase where said neutral end of said any one of said
10 phases is not connected to said neutral end of said at least one other phase by said
11 first wire.

12 7. The stator as defined in claim 6, further including an insulator
13 attached to an end of said stator and having a plurality of slits for passing said first
14 wire therethrough.

15 8. The stator as defined in claim 7, wherein said slits have differing
16 depth to prevent portions of said first wire from any of the phases from coming in
17 electrical contact with each other.

18 9. The stator as defined in claim 6, wherein a lead end of the phases
19 terminate at a pocket formed in said insulator and connected to an insulation
20 displacement terminal (IDC).

1 10. The stator as defined in claim 6 wherein said second wire
2 connects said neutral end of any one of said phase to said neutral end of another
3 phase using an insulation displacement terminal (IDC).

4 11. The stator as defined in claim 6, wherein said disconnection
5 occurs at an insulation displacement terminal.

6 12. The stator as defined in claim 6, wherein said coil are wound using
7 a needle winder.

8 13. The stator as defined in claim 12 wherein said stator is wound in a
9 single tooth winding pattern.

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